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ABSTRACT

Questioning is one of the most popular modes of teaching, but it has the capacity to turn a child off to learning if done incorrectly. This digest provides teachers with information on the types of questions and questioning behaviors that can facilitate the learning process and on the types of questions that are ineffective. Good questions foster student learning. Low-level cognitive questions may limit students by not helping them acquire a deep understanding of a subject, but high-level cognitive questions, which require students to use higher order thinking or reasoning skills, ask students to use knowledge to solve problems, to analyze, and to evaluate. Many teachers, however, rely on low-level cognitive questions to keep the attention of the students, maintain order, and avoid a slow-paced lesson. W. Wilen and A. Clegg (1986) suggest that teachers can ask questions that foster student achievement if they: (1) phrase questions clearly; (2) ask questions primarily of an academic nature; (3) allow 3 to 5 seconds of wait time after questions; (4) encourage students to respond in some way to each question; (5) balance responses from volunteering and nonvolunteering students; (6) elicit a high percentage of correct responses and assist with incorrect responses; (7) probe students' responses to have them clarify ideas, support a point of view, or extend their thinking; and (8) acknowledge correct responses and use praise specifically and discriminately. Teachers should be sure that they have a clear purpose for the questions they ask. (Contains 13 references.) (SLD)

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In 1912, Stevens stated that approximately eighty percent of a teacher's school day was spent asking questions to students. More contemporary research on teacher questioning behaviors and patterns indicate that this has not changed. Teachers today ask between 300-400 questions each day (Leven and Long, 1981).

Teachers ask questions for several reasons (from Morgan and Saxton, 1991):

1. the act of asking questions helps teachers keep students actively involved in lessons;
2. while answering questions, students have the opportunity to openly express their ideas and thoughts;
3. questioning students enables other students to hear different explanations of the material by their peers;
4. asking questions helps teachers to pace their lessons and moderate student behavior; and
5. questioning students helps teachers to evaluate student learning and revise their lessons as necessary.

As one may deduce, questioning is one of the most popular modes of teaching. For thousands of years, teachers have known that it is possible to transfer factual knowledge and conceptual understanding through the process of asking questions. Unfortunately, although the act of asking questions has the potential to greatly facilitate the learning process, it also has the capacity to turn a child off to learning if done incorrectly. The purpose of this digest is to provide teachers with information on what types of question and questioning behaviors can facilitate the learning process as well as what types of questions are ineffective.

What is a Good Question?

In order to teach well, it is widely believed that one must be able to question well. Asking good questions fosters interaction between the teacher and his/her students. Rosenshine (1971) found that large amounts of student-teacher interaction promotes student achievement. Thus, one can surmise that good questions fosters student understanding. However, it is important to know that not all questions achieve this.

Teachers spend most of their time asking low-level cognitive questions (Wilen, 1991). These questions concentrate on factual information that can be memorized (ex. What year did the Civil War begin? or Who wrote *Great Expectations*?). It is widely believed that this type of question can limit students by not helping them to acquire a deep, elaborate understanding of the subject matter.

High-level-cognitive questions can be defined as questions that requires students to use higher order thinking or reasoning skills. By using these skills, students do not remember only factual knowledge. Instead, they use their knowledge to problem solve, to analyze, and to evaluate. It is popularly believed that this type of question reveals the most about whether or not a student has truly grasped a concept. This is because a student needs to have a deep understanding of the topic in order to answer this type of question. Teachers do not use high-level-cognitive questions with the same amount of frequency as they do with low-level-cognitive questions. Ellis (1993) claims that many teachers do rely on low-level cognitive questions in order to avoid a slow-paced lesson, keep the attention of the students, and maintain control of the classroom.

Arends (1994) argues that many of the findings concerning the effects of using lower-level-cognitive versus higher-level-cognitive questions has been inconclusive. While some studies and popular belief favor asking high-level-cognitive, other studies reveal the positive effects of asking low-level cognitive questions. Gall (1984), for example, cited that "emphasis on fact questions is more effective for promoting young disadvantaged children's achievement, which primarily involves mastery of basic skills; and emphasis on higher cognitive questions is more effective for students of average and high ability. . ." (p. 41). Nevertheless, other studies do not reveal any difference in achievement between students whose teachers use mostly high level questions and those whose teachers ask mainly low level questions (Arends, 1994; Wilen, 1991). Therefore, although teachers should ask a combination of low-level-cognitive and high-level-cognitive questions, they must

determine the needs of their students in order to know which sort of balance between the two types of questions needs to be made in order to foster student understanding and achievement.

How to ask questions that foster student achievement

In a research review on questioning techniques, Wilen and Clegg (1986) suggest teachers employ the following research supported practices to foster higher student achievement:

- phrase questions clearly;
- ask questions of primarily an academic nature
- allow three to five seconds of wait time after asking a question before requesting a student's response, particularly when high-cognitive level questions are asked;
- encourage students to respond in some way to each question asked;
- balance responses from volunteering and nonvolunteering students;
- elicit a high percentage of correct responses from students and assist with incorrect responses;
- probe students' responses to have them clarify ideas, support a point of view, or extend their thinking;
- acknowledge correct responses from students and use praise specifically and discriminately. (p. 23)

What is a Bad Question?

When children are hesitant to admit that they do not understand a concept, teachers often try to encourage them to ask questions by assuring them that their questions will neither be stupid or bad. Teachers frequently say that all questions have some merit and can contribute to the collective understanding of the class. However, the same theory does not apply to teachers. The content of the questions and the manner in which teachers ask them determines whether or not they are effective. Some mistakes that teachers make during the question and answer process include the following: asking vague questions (ex. What did you think of the story that we just read?), asking trick questions, and asking questions that may be too abstract for children of their age (ex. asking a kindergarten class the following question: How can it be 1:00 P.M. in Connecticut but 6:00 P.M. in the United Kingdom at the same moment?)

When questions such as those mentioned are asked, students will usually not know how to respond and may answer the questions incorrectly. Thus, their feelings of failure may cause them to be more hesitant to participate in class (Chuska, 1995), evoke some negative attitudes towards learning, and hinder the creation of a supportive classroom environment.

Conclusion

Sanders (1966) stated, "Good questions recognize the wide possibilities of thought and are built around varying forms of thinking. Good questions are directed toward learning and evaluative thinking rather than determining what has been learned in a narrow sense" (p. ix). With this in mind, teachers must be sure that they have a clear purpose for their questions rather than just determining what knowledge is known. This type of question planning results in designing questions that can expand student's knowledge and encourage them to think creatively.

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